

Pizza Prize

Asad, Foyj, Juwel, Mijan, Tanmay are friends from group "Mission Starts". They are in the queue for Pizza in a bakery. No other people is in the queue. A person who takes one pizza can get two chances to get pizza at the end of queue.

Expalnation:

Initial Chances queue: Asad, Foyj, Juwel, Mijan, Tanmay .

After taking 1st pizza the Chances queue: Foyj, Juwel, Mijan, Tanmay, Asad, Asad.

After taking 2nd pizza the Chances queue: Juwel, Mijan, Tanmay, Asad, Asad, Foyj, Foyj.

And So on.....

But the shopkeeper wants to offer a special prize to a person who have the N th pizza. In this case, He asks for your help. You are a great programmer in our country. Your task is to find the name of the lucky winner who have the N th pizza (the queue only contain these 5 peoples and their order should be maintained strictly).

Input

Every line of the input contains a single integer N denoting the lucky pizza number.

Constraints

- $1 \leq N \leq 10^9$

Output

For each test case, print a single line and print the name of the lucky winner.

Example

Input:

1
2
3

Output:

Asad
Foyj
Juwel